



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.



Available online at

ScienceDirect

www.sciencedirect.com

Elsevier Masson France

EM|consulte

www.em-consulte.com



EDITORIAL

Hydroxychloroquine and COVID-19: The endgame!

KEYWORDS

COVID-19;
Hydroxychloroquine;
Clinical trial;
MRNA vaccine;
Retraction

More than 3 years ago, in the context of the emerging global pandemic, the IHU Méditerranée Infection published the results of a study designed to show the benefits of hydroxychloroquine and azithromycin in the treatment of coronavirus disease 2019 (COVID-19), and also publicized the results widely via social networks [1].

The entire scientific and medical community, experienced in drug evaluation, was quick to denounce the numerous methodological shortcuts and, in the context of the pandemic, the inappropriate or even irresponsible nature of this study [2], which led to the massive and irrational use of these treatments worldwide. Despite the unequivocal evidence demonstrating the inefficacy of these drugs in treating COVID-19 [3] and the potential risks associated with hydroxychloroquine usage, little or nothing has changed.

Today, the world's population finds itself divided between those who believe in the supposedly miraculous effects of these treatments and those who adopt a more cautious approach, relying on pharmacological data and the consistent findings of randomized trials. In France, the IHU Méditerranée Infection has nevertheless continued to prescribe these treatments on a very large scale, outside any regulatory framework, as was recently highlighted in an article authored by 16 French learned societies and public research organizations [4]. At the same time, the retraction of the initial article was repeatedly requested, and it was in the context of the *International Journal of Antimicrobial Agents*' refusal that we decided to publish a letter to the editor arguing for the definitive withdrawal of this article that undoubtedly poses numerous concerns from both methodological and ethical perspectives [5].

DOI of original article: <https://doi.org/10.1016/j.therap.2023.06.001>.

Abbreviations: COVID-19, Coronavirus disease 2019.

<https://doi.org/10.1016/j.therap.2023.06.003>

0040-5957/© 2023 Société française de pharmacologie et de thérapeutique. Published by Elsevier Masson SAS. All rights reserved.

Engaging our journal, and by extension, the French Society of Pharmacology and Therapeutics, in this protest process, is an atypical and challenging decision. However, it is our duty as medical and scientific professionals to point out the evidence and ensure that French medical research, as a whole, is not unjustly discredited. Many of us have been heavily involved in the quest for therapeutic solutions and in patients' care, and we cannot tolerate any doubts about the inappropriate approaches described above. In the interest of patients and the integrity of medical research, it is time to put an end to the unfounded fable surrounding the efficacy of hydroxychloroquine in COVID-19.

Disclosure of interest

The author declares that he has no competing interest.

References

- [1] Gautret P, Lagier JC, Parola P, Hoang VT, Meddeb L, Mailhe M, et al. Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial. *Int J Antimicrob Agents* 2020;56:105949.
- [2] Rosendaal FR. Review of: "Hydroxychloroquine and azithromycin as a treatment of COVID-19: results of an open-label non-randomized clinical trial". Gautret et al., 2010, DOI:10.1016/j.ijantimicag.2020.105949. *Int J Antimicrob Agents* 2020;56:106063.
- [3] Chi G, Memar Montazerin S, Lee JJ, Kazmi SHA, Shojaei F, Fitzgerald C, et al. Effect of azithromycin and hydroxychloroquine in patients hospitalized with COVID-19: Network meta-analysis of randomized controlled trials. *J Med Virol* 2021;93:6737–49.
- [4] Le Monde Sciences. Collectif. Tribune. Recherche clinique à l'IHU de Marseille: «en l'absence de réaction des institutions, les graves manquements constatés pourraient devenir la norme»; 2023, https://www.lemonde.fr/sciences/article/2023/05/28/recherche-clinique-a-l-ihu-de-marseille-en-l-absence-de-reaction-des-institutions-les-graves-manquements-constates-pourraient-devenir-la-norme_6175184_1650684.html. [Accessed 5 June 2023].
- [5] Barraud D, Besançon L, Bik EM, Billy E, Clarot F, Frank F, et al. Why the article that led to the widespread use of hydroxychloroquine in COVID-19 should be retracted? *Therapie* 2023, <http://dx.doi.org/10.1016/j.therap.2023.06.001>.

Dominique Deplanque

Department of Medical Pharmacology, Faculty of Medicine, 1, place de Verdun, 59045 Lille, France

E-mail address: dominique.deplanque@univ-lille.fr